

REMARKS

If a further extension of time is required, please charge the fee to the Deposit Account of the undersigned, i.e Account No. 12-2174.

This response is a revised version of applicant's previous response after final filed September 23, 2004. As explained to Examiner Tamai in telephone conversation October 19, 2004, the present, additional amendments to claim 18 serve to further define the casing in terms of the flow path which it, in turn, defines. Briefly, claim 18 as amended defines a flow passage for cooling air which extends, coaxially with the central rotational axis of the rotor, between axially opposed ends of the casing. Here, the wording differs from the proposal considered by the examiner on October 19th wherein the flow passage was defined simply as coaxial with the rotor.

In contradistinction, in Thomas and Wang, which the Examiner relies upon for disclosure of a casing constructed of plates laminated face-to-face, air does not enter the fan casing at one axial end and exit through the opposing axial end. In both of Thomas and Wang air enters the casing radially, through slots in the side wall or walls. At column 4, lines 10-12, Thomas teaches that air enters through the side surfaces or "heat transfer surfaces" 44. Also see column 3, lines 25-30 of Thomas. In Wang, one axial end of the central opening in the casing is closed off by the substrate 10 and "gaps are defined between adjacent heat dissipating plates (31)," quoting from column 2, lines 61-62. Thus, the casings of Thomas and Wang cannot be composed of plates laminated together in face-to-face contact because they require spacings or slots in the

side wall or walls for admission of air. For this reason, even if combined with Umeda, Thomas and Wang would not give the present invention. It should be emphasized that the only apparent reason for the casing designs of Thomas and Wang is to allow for admission of air radially into the casing and, therefore, there would have been no motivation to use such casings for a fan with flow path as in the embodiments of Figs. 7 and 8 of Umeda. Parenthetically, note that in the embodiments of Figs. 7 and 8 of Umeda, at least one of the inlet and outlet is off-center so that the flow path can not be coaxial with the rotor from inlet to outlet as required by claim 18 as amended here.

Responsive to the objection to claim 21, as set forth in paragraph 2 of the office action, claim 21 is amended to depend from claim 20.

The new rejection of claims 18, 21 and 22 for obviousness over Umeda et al and Thomas is respectfully traversed. The examiner's explanation of the rejection in paragraph 4 of the office action overlooked several limitations of claim 18. Firstly, claim 18 recites: "said casing is formed of a plurality of metal plates laminated along the axial direction of said rotary shaft" [emphasis added]. While the examiner does not identify the embodiment of Thomas upon which he relies, none of the embodiments of Thomas have a casing formed of a plurality of metal plates which are laminated together. Other than the embodiment of Fig. 11, the embodiments of Thomas bear some resemblance to the disclosure of a heat sink 4 in Fig. 2 of the primary reference, Umeda et al. However, in those embodiments of Thomas the heat transfer surface "comprises a number of finely pitched posts 45, defining slots 47 therebetween." Thus, in the Thomas embodiments other than shown in Fig. 11, the heat sink is not formed of

plates, much less plates laminated together. Also note that if the "posts 45" were to be laminated or placed together in any manner, they would no longer define slots 47 therebetween and the result would be an inoperative embodiment or at least an embodiment which would not function in the manner intended by Thomas. See column 4, lines 10-12 of Thomas.

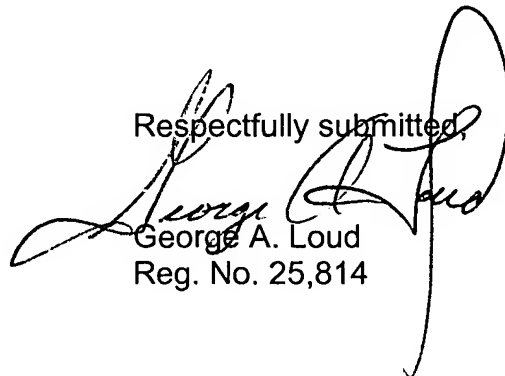
In the embodiment of Fig. 11 of Thomas, again, there is no casing made of a plurality of plates, much less plates which are laminated together. In the embodiment of Fig. 11 each ring 62 is described as having "a geometry that enhances its pressure differential capacity," exemplified by an "arc-like cross-section." See column 6, lines 27-30. Thus, in the embodiment of Fig. 11 the rings are not "plates" and are not "laminated" together. The embodiment of Fig. 11 is defined as having "an optimized heat transfer surface 44" which is intended to allow air flow therethrough inwards toward the fan as taught at column 4, lines 10-12. Accordingly, again, if the rings 62 were plates (which they are not) they could not be laminated together consistent with the teachings of Thomas.

Summarizing, even if the teachings of Umeda et al and Thomas were properly combinable, the result would not be the invention as defined by claim 18 for the reasons stated above.

The rejection of claims 19 and 20 for obviousness with the additional citation of Wang, as set forth in paragraph 5 of the office action, is also traversed because the

basic combination of Thomas and Umeda et al does not lead to the present invention, for the reasons stated above. The further combination with Wang is further traversed for the reason that the examiner apparently mischaracterizes the teachings of Wang. For example, the examiner writes "Wang teaches the second plates 20, 30 being in face-to-face relationship and having only an inner circular edge." However, "30" is a reference numeral which Wang uses to refer to the fan, not a "plate." See, for example, column 2, line 58. At column 2, lines 58-62 Wang defines the fan as "composed of multiple mutually superposed heat dissipating plates (31)." and further states "Thus, in order to have a good heat dissipation effect gaps are defined between adjacent heat dissipating plates (31)." These gaps between plates 31 can be clearly seen in the perspective views of Figs. 1 and 6. Plates which are spaced apart so as to have gaps therebetween are not laminated together and are not in "face-to-face contact."

In conclusion, it is respectfully requested that the examiner reconsider the rejections of record in light of the foregoing comments with a view toward allowance of the pending claims.

Respectfully submitted,

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Dated: October 20, 2004

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